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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------------------|------------------------------|--|
| Office Action Summary | Application No. 10/804,285 | Applicant(s) PECEN ET AL. | |
| | Examiner Mazda Sabouri | Art Unit 2617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-12,15-25,27-31 and 33-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-12,15-25,27-31 and 33-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Below is a new final office action that explicitly addresses the amendments filed on 8/5/2006. The final office action mailed on 10/11/2006 imparted the rejection of claims 2,13 and 32 onto amended claims 1,5,21,31,35 and 38 within the RESPONSE TO ARGUMENTS section, but failed to explicitly address those amendments within the main body of the office action. Examiner will further respond to arguments provided in the PRE-APPEAL BRIEF REQUEST FOR REVIEW filed on 2/27/2007.
2. Applicant's arguments (pre-appeal brief request for review) filed on 2/27/2007 have been fully considered but they are not persuasive.
3. Applicant argues that Haarston and Kallio, "alone or in combination, do not disclose or suggest the various combinations of, for example, sending a transfer request to a second radio access network requesting transfer of an ongoing communication from a first radio access network to the second radio access network, wherein the first radio access network is a cellular radio access network and wherein the second radio access network is a wireless local area network, as recited in independent claim 1." Examiner respectfully traverses this argument. Examiner notes that Haarston teaches a mobile device sending a transfer request to a second RAN requesting handover from a first RAN to a second RAN (see Haarston, Summary of Invention and column 10, lines 63-67 and column 11 and figure 4). What is lacking from Haarston is "wherein the first radio access network is a cellular radio access network and wherein the second radio

access network is a wireless local area network". Kallio cures this deficiency by teaching handover from a cellular network to a WLAN.

4. Applicant further argues that "[o]ne of ordinary skill in the art would have clearly understood the teachings of the references cannot perform the claimed features because the disclosed wireless local area networks were unregistered networks and could not coordinate with the cellular radio access network to perform the claimed features". Examiner respectfully traverses this argument as well. Haarston clearly teaches a coordinated handover between an unregistered network (private cellular network) and a cellular network. All that is lacking from Haarston is the direction of handover. Haarston explicitly teaches a mobile initiated handover from a WLAN (private cellular network) to a cellular network (public cellular network). The main inventive concept of sending the handover request to the second RAN for handover from a first RAN to a second RAN met by Haarston. Kallio cures this deficiency by teaching handover from a cellular network to a WLAN.

5. Applicant further argues that proper motivation has not been provided for combining Haarston and Kallio. In particular, applicant argues that Kallio's teachings teach away from Haarston, and would therefor not be an obvious candidate for combining with Haarston. Examiner respectfully traverses this argument. Examiner believes that Kallio qualifies as analogous art to Haarston. Both references teach handoffs between uncoordinated networks using different modes of communication. Furthermore, in both references, the mobile terminal initiates handoff. Examiner concedes that Kallio does not teach the mobile terminal sending the handoff request to

the second RAN. However this limitation is already met by Haarston. While Haarston and Kallio may not be identical, their similarities are sufficient enough to qualify Kallio as analogous art. Kallio is cited for it's particular teaching of handing over a mobile terminal from a cellular network to a WLAN. Haarston teaches a handing over a mobile terminal from a WLAN to a cellular network. Kallio teaches that sometimes a WLAN might provide better service than a cellular network in a given area. It is the examiner's belief that this teaching provides sufficient motivation for modifying Haarston's system and method, so that the mobile terminal is handed over from a cellular network to a WLAN.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2617

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claims 1,3-12,15,16,18-25,27-31 and 33-41** rejected under 35 U.S.C. 103(a) as being unpatentable over US 2000/6112088 (Haartsen) in view of US 2002/0147008 (Kallio).

10. **As to claim 1**, Haartsen teaches a method for handover of a communication device (mobile terminal) between a first RAN (private wireless network, this reads on a WLAN) and a second RAN (public wireless network, this reads on a cellular network) using a different mode of communication. The method comprises the communication device entering an ongoing communication (call) on the first RAN. The method further comprises detecting the presence of the second RAN. The method further comprises sending a transfer request from the communication device to the second RAN. The method further comprises transferring the ongoing communication from the first RAN to the second RAN (see Haartsen, Summary of Invention and column 10, lines 63-67 and column 11 and figure 4).

11. What is lacking from Haartsen is the first RAN being a cellular network, and the second RAN being a WLAN. Kallio teaches a method a system for handing over a communication device (mobile station) from cellular network to a WLAN (see Kallio, paragraphs 10-13). The motivation for using Kallio's teaching can be found in Kallio. Kallio teaches that the WLAN can sometimes have a better QOS (quality of service) than the cellular network (see Kallio, paragraph 2). It would have been obvious to one of ordinary skill in the arts at the time the invention was made to combine the teachings of Kallio into those of Haartsen for the reasons mentioned above.

12. **As to claim 5**, Haartsen teaches a method for handover of a communication device (mobile terminal) between a first RAN (private wireless network, this reads on a WLAN) and a second RAN (public wireless network, this reads on a cellular network) using a different mode of communication. The method comprises registering (adding to the network) the communication device with the second RAN. Haartsen teaches that an ongoing call is rerouted during the handover. This reads on the second network knowing (via the communication device that requested the handover) that the communication device is actively in an ongoing call with the first RAN. The method further comprises sending a transfer request from the second RAN to the first RAN (note that the request is sent to a PSTN that controls the first RAN). The method further comprises transferring the ongoing communication from the first RAN to the second RAN (see Haartsen, Summary of Invention and column 10, lines 63-67 and column 11 and figure 4).

13. What is lacking from Haartsen is the first RAN being a cellular network, and the second RAN being a WLAN. Kallio teaches a method a system for handing over a communication device (mobile station) from cellular network to a WLAN (see Kallio, paragraphs 10-13). The motivation for using Kallio's teaching can be found in Kallio. Kallio teaches that the WLAN can sometimes have a better QOS (quality of service) than the cellular network (see Kallio, paragraph 2). It would have been obvious to one of ordinary skill in the arts at the time the invention was made to combine the teachings of Kallio into those of Haartsen for the reasons mentioned above.

14. **As to claim 21**, Haartsen teaches a method for handover of a communication device (mobile terminal) between a first RAN (private wireless network, this reads on a WLAN) and a second RAN (public wireless network, this reads on a cellular network) using a different mode of communication. The method comprises establishing an ongoing communication (call) with the first RAN. The method further comprises the first RAN receiving a transfer request (for the ongoing call) from the second RAN (note that the request is sent to a PSTN that controls the first RAN). The method further comprises transferring the ongoing communication from the first RAN to the second RAN (see Haartsen, Summary of Invention and column 10, lines 63-67 and column 11 and figure 4).

15. What is lacking from Haartsen is the first RAN being a cellular network, and the second RAN being a WLAN. Kallio teaches a method a system for handing over a communication device (mobile station) from cellular network to a WLAN (see Kallio, paragraphs 10-13). The motivation for using Kallio's teaching can be found in Kallio.

Art Unit: 2617

Kallio teaches that the WLAN can sometimes have a better QOS (quality of service) than the cellular network (see Kallio, paragraph 2). It would have been obvious to one of ordinary skill in the arts at the time the invention was made to combine the teachings of Kallio into those of Haartsen for the reasons mentioned above.

16. **As to claim 31**, Haartsen teaches communication device (mobile terminal) for handover from a first RAN (private wireless network) to a second RAN (public wireless network) having a different mode of communication. The communication device comprises a transceiver. The device further comprises a controller configured to enter ongoing communication with the first RAN. The communication device has network detection means for detecting (monitoring) the presence of the second RAN, which is uncoordinated with the first RAN. The device further comprises transfer request means for requesting a transfer (handover) to the second RAN from the first RAN. The device further comprises ongoing communication transfer means for maintaining an ongoing communication (call) while the transfer (handover) is taking place (see Haarsten, Summary of Invention and column 10, lines 63-67 and column 11 and figures 2 and 4).

17. What is lacking from Haartsen is the first RAN being a cellular network, and the second RAN being a WLAN. Kallio teaches a method a system for handing over a communication device (mobile station) from cellular network to a WLAN (see Kallio, paragraphs 10-13). The motivation for using Kallio's teaching can be found in Kallio. Kallio teaches that the WLAN can sometimes have a better QOS (quality of service) than the cellular network (see Kallio, paragraph 2). It would have been obvious to one

Art Unit: 2617

of ordinary skill in the arts at the time the invention was made to combine the teachings of Kallio into those of Haartsen for the reasons mentioned above.

18. **As to claim 35**, Haartsen teaches a controller (BSC in figure 3) in a RAN for handing over a communication device (mobile terminal) from a first RAN (private wireless network) to a second RAN (public wireless network) having a different mode of communication. The controller comprises a registration means for registering the communication device (adding it to its network). The controller further comprises ongoing communication determination means for receiving information relating to an ongoing communication (call) at the second RAN from the communication device. The controller further comprises transfer request communication means for requesting a transfer of the communication device from the first RAN (via a PSTN that controls the first RAN) to the second RAN. The controller further comprises handover means for transferring (handing over) an ongoing communication from the first RAN to the second RAN (see Haartsen, Summary of Invention and column 10, lines 63-67 and column 11 and figures 2 and 4).

19. What is lacking from Haartsen is the first RAN being a cellular network, and the second RAN being a WLAN. Kallio teaches a method a system for handing over a communication device (mobile station) from cellular network to a WLAN (see Kallio, paragraphs 10-13). The motivation for using Kallio's teaching can be found in Kallio. Kallio teaches that the WLAN can sometimes have a better QOS (quality of service) than the cellular network (see Kallio, paragraph 2). It would have been obvious to one

of ordinary skill in the arts at the time the invention was made to combine the teachings of Kallio into those of Haartsen for the reasons mentioned above.

20. **As to claim 38**, Haartsen teaches a controller (PSTN/PBX of figure 3) in a RAN for handing over a communication device (mobile terminal) from a first RAN (private wireless network, reads on a WLAN) to a second RAN (public wireless network, reads on a cellular network) having a different mode of communication. Note that the PSTN/PBX controls the first RAN (private wireless network). The controller comprises communication connection means for establishing an ongoing communication with the communication device. The controller further comprises transfer request means for receiving a request from the second RAN for transfer (handover) of the ongoing communication to the second RAN. The controller further comprises communication transfer means for transferring the ongoing communication from the first RAN to the second RAN (see Haartsen, Summary of Invention and column 10, lines 63-67 and column 11 and figures 2 and 4).

21. What is lacking from Haartsen is the first RAN being a cellular network, and the second RAN being a WLAN. Kallio teaches a method a system for handing over a communication device (mobile station) from cellular network to a WLAN (see Kallio, paragraphs 10-13). The motivation for using Kallio's teaching can be found in Kallio. Kallio teaches that the WLAN can sometimes have a better QOS (quality of service) than the cellular network (see Kallio, paragraph 2). It would have been obvious to one of ordinary skill in the arts at the time the invention was made to combine the teachings of Kallio into those of Haartsen for the reasons mentioned above.

Art Unit: 2617

22.

23. **As to claim 3**, Haartsen further teaches that the second RAN is not associated with the first RAN (and thereby has no information on the first RAN), as one is a private wireless network and the other is a public wireless network (see Haartsen, Summary of Invention).

24. **As to claim 4**, Haartsen further teaches registering (adding to the network) the communication device on the second RAN. Haartsen further teaches that the ongoing call is rerouted during the handover. This teaching reads on the second network knowing (via the communication device that requested the handover) that the communication device is actively in an ongoing call with the first RAN (see Haartsen, Summary of Invention and column 10, lines 63-67 and column 11 and figure 4).

25. **As to claims 6,10 and 24**, Haartsen further teaches that the ongoing communication is a call. A call inherently includes a connected party (see Haartsen, Summary of Invention).

26. **As to claim 7**, Haartsen further teaches that the communication device initiates the handover by sending a request to the second RAN (see Haartsen, Summary of Invention).

27. **As to claim 8**, Haartsen further teaches that a second communication channel is set up between the communication device and the second RAN. An acknowledgment of reception is inherent to a channel set up (see Haartsen, column 10, lines 63-67 and column 11 and figure 4).

28. **As to claim 9**, Haartsen further teaches that the communication device monitors the second RAN (having a plurality of base stations) prior to determining whether or not to request a handover to the second RAN (see Haartsen, Summary of Invention). This teaching reads on the communication device having a destination identifier in its request for handover.

29. **As to claim 11**, Haartsen further teaches that the ongoing call (between the communication device and a connected party) is transferred from the first RAN to the second RAN during the handover (see Haartsen, column 10, lines 63-67 and column 11 and figure 4).

30. **As to claim 12**, Haartsen further teaches the communication device sending a handover request to the second RAN (see Haartsen, column 10, lines 63-67 and column 11 and figure 4). Registration with the second RAN during handover is inherent, especially since the second RAN uses a different mode of communication from the first RAN.

31. **As to claim 15**, Haartsen further teaches that both the first RAN and the second RAN are TDMA networks (see Haartsen, column 4, lines 20-34).

32. **As to claims 16 and 27**, Haartsen further teaches that the communication device is handed over to the second RAN. It is inherent that the second RAN would recognize the communication device being connected to its network. Haartsen further teaches the second RAN communicating with the first RAN (via the PSTN that controls the first RAN) before and during the handover process. A completion message is

inherent to the handover process (see Haartsen, column 10, lines 63-67 and column 11 and figure 4).

33. **As to claims 18 and 28**, Haartsen further teaches that the communication device connects to the second RAN (while in an ongoing call) via a circuit network (MSC) (see Haartsen, figure 3).

34. **As to claims 19,20,25,29 and 30** Haartsen teaches the communication device being transferred (handed over) from one the first RAN to the second RAN during an ongoing communication (call) (see Haartsen, Summary of Invention). It is explicit from Haartsen's teachings that the communication device will communicate to the connected party via the second RAN (after the handover has been completed). The status (the network from which it communicates with) of the connected party is independent of the status of the communication device. Haartsen teaches his system and method with respect to the communication device. There are a multitude of situations that can correspond to the status of the connected party. One such situation is the connected party being connected to the first RAN. In this situation, the ongoing communication would go through the network portion of the first RAN, and through the radio portion of the second RAN (to the communication device). In the situation that the connected party is not connected to the first RAN, then the communication between the communication device and the connected party would bypass the first RAN completely. Both of these situation fall within the spirit and scope of the invention, and are therefore implicitly taught in the method and system of Haartsen.

Art Unit: 2617

35. **As to claim 22 and 39**, note the rejection of claims 2,13 and 32 (first RAN being a cellular network, second RAN being a WLAN) and further note the rejection of claim 41 (ongoing communication being a call).

36. **As to claim 23**, Haartsen further teaches the second RAN communicating with the first RAN (via a PSTN that controls the first RAN) before and during the handover. A destination identifier is inherent to the handover process between the first RAN and the second RAN (see Haartsen, Summary of Invention).

37. **As to claim 33**, Haartsen further teaches that the second RAN is not associated with the first RAN (and thereby has no information on the first RAN), as one is a private wireless network and the other is a public wireless network (see Haartsen, Summary of Invention).

38. **As to claim 34**, Haartsen further teaches that the ongoing call is rerouted during the handover. This teaching reads on the second network knowing (via the communication device that requested the handover) that the communication device is actively in an ongoing call with the first RAN (see Haartsen, Summary of Invention and column 10, lines 63-67 and column 11 and figure 4).

39. **As to claim 36**, Haartsen further teaches that the communication device initiates the transfer (handover) by contacting and indicating a desire to transfer to the second RAN (see Haartsen, column 9, lines 63-67 and column 11 and figure 4).

40. **As to claims 37 and 40**, Haartsen further teaches the second RAN communicating with the first RAN (via a PSTN that controls the first RAN) before and during the handover. A handover request message and destination identifier is inherent

to the handover process between the first RAN and the second RAN (see Haartsen, Summary of Invention).

41. **As to claims 41**, Haartsen further teaches that the ongoing communication is a call. A call inherently includes a connected party (see Haartsen, Summary of Invention).

42. **Claim 17** rejected under 35 U.S.C. 103(a) as being unpatentable over US 2000/6112088 (Haartsen) in view of US 2002/0147008 (Kallio) as applied to claim 5 above, and further in view of US 2003/0117978 (Haddad).

43. **As to claim 17**, what is lacking from Haartsen in view of Kallio is the use of IP wireless communication networks. Haddad teaches a method for handing over a mobile terminal from a wireless IP LAN to another wireless network (WAN) using a different mode of communication (see Haddad, paragraphs 76 and 77. The motivation for using Haddad's teachings can be found in Haddad. Haddad teaches that mobile IP systems are commonly used (known) for connecting mobile devices such as PDAs and laptops in a WLAN (see Haddad, paragraph 2). It would have been obvious to one of ordinary skill in the arts at the time the invention was made to combine the teachings of Haddad into those of Haartsen in view of Kallio for the reasons mentioned above.

Conclusion

44. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2004/0023669 (Reddy) teaches a handover between a cellular system and a wireless LAN. US 2002/6487410 (Kontio et al.) teaches

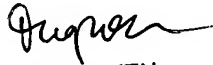
connecting a multimode terminal to the network in a mobile communication system. US 2001/6243581 (Jawanda) teaches a method and system for seamless roaming between wireless communication networks with a mobile terminal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mazda Sabouri whose telephone number is 571-272-8892. The examiner can normally be reached on Monday-Friday from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 561-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mazda Sabouri
Examiner
Art Unit 2617


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